

Amendment

U.S. Patent Application No. 10/678,636

REMARKS

Claims 92-106 are pending in the subject application, have been examined and stand rejected. By way of the above amendments, claims 92, 98 and 103 have been amended, and support for such claim amendments can be found throughout the specification. Claims 1-91 have been withdrawn by the Examiner as non-elected claims due to a previous restriction requirement. These claims have been canceled without prejudice or disclaimer of the subject matter thereof, and Applicants expressly reserve the right to pursue the subject matter of the canceled claims in a divisional application. Favorable reconsideration of the application and allowance of all of the pending claims are respectfully requested in view of the above amendments and the following remarks.

In the present Office Action, the Examiner has objected to the drawings due to the reference numeral 62 being used to designate both the completion string and shaped shoulder. The specification has been amended, as indicated above, so as to describe the shaped shoulder 61. In addition, a replacement drawing sheet showing Figure 6 is being provided with this Amendment, in which the shaped shoulder in Figure 6 is now designated with reference numeral 61 (i.e., reference numeral 62 has been changed to reference numeral 61 for the shaped shoulder). The Examiner is now requested to withdraw the objection to the drawings.

Claims 98-102 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 3,256,937 to Haeber. In addition, claims 103-106 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,063,157 to Bartlett. Further, claims 92-97 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Haeber. Applicant respectfully traverses and requests the Examiner to reconsider these rejections based upon the following remarks.

Each of independent claims 92, 98 and 103 have been amended to include the feature that control of the well is maintained using at least two independently verifiable deep-set well control barriers. Neither Haeber nor Bartlett, nor any of the other cited references for that matter, discloses or suggests the combined features of each of claims 92, 98 and 103.

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Haeber describes an underwater well completion method, in which at least one blow out preventer (BOP) is used during the drilling and completion stages, and further where the BOP is removed before running a combined Christmas tree and tubing string in open water during well completion. After removal of the BOP and prior to setting of the wellhead assembly or Christmas tree, a Baker Oil Tool, Inc., Model "D" wire-line-set single bore production packer 217 is installed in the inner casing string 183 in combination with a wire line retrievable plug 218 (see Col. 12, lines 57-75 and Fig. 30 of Haeber). In addition, Haeber describes that a Brown Oil Tool Co. dual bore hydraulic-set production packer 205 may be run into the well on the first tubing string 192 to seat the bottom of the second tubing string 196 against the casing after the tubing string 196 has been run into the well.

As described in Haeber, the lower packer 217 and its plug 218 provide a temporary closure means for containing the well pressure during completion of the well, while the production packer 205 prevents corrosive fluids from going up the well between the outer wall of the tubing string and the inner wall of the casing string during production. Clearly, the production packer 205 of Haeber provides no barrier whatsoever to the flow of hydrocarbons from the well during the completion stage. Rather, when the tubing strings 192 and 196 are withdrawn upwardly to the barge 11 described in Haeber, the production packer 205 stays in position in the well bore such that hydrocarbons flow through the bore of the packer 205.

Haeber fails to disclose or suggest at least the feature of maintaining control of the well using at least two independently verifiable deep-set well control barriers as recited in independent claims 92, 98 and 103. As noted above, the only well control barrier taught in Haeber that is in place after the BOP has been removed is the lower packer 217 and its plug 218. In other words, Haeber teaches a single deep-set well control barrier rather than at least two independently verifiable deep-set well control barriers as recited in the claims. Furthermore, it is noted that the lowermost casing 183 taught in Haeber is perforated and thus does not operate as and could not reasonably be considered a well control barrier as recited in the claims (see Col. 11, lines 70-75, and Fig. 27 of Haeber).

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Further, Haeber fails to render obvious the feature of maintaining well control by providing at least two independently verifiable deep-set well control barriers. As noted in the previous Amendment filed in response to the previous Office Action, this feature was simply not known or even considered in the art prior to the time of the invention. Applicants have further provided evidence in the form of the previously submitted Declaration under 37 C.F.R. §1.132 by Paul Anthony Kelley (hereinafter referred to as “Mr. Kelley’s Declaration”), which is now of record. As can be seen from Mr. Kelley’s Declaration, Mr. Kelly is clearly a person who constitutes one having ordinary skill in the oil and gas industry, and in particular in the field of deep sea well completions, suspension and work-over operations. Paragraphs 3-6 of Mr. Kelley’s Declaration set forth that it has been a longstanding standard industry practice to use one deep-set barrier or plug and one shallow barrier or plug when suspending a well, with the technical reasons for providing a deep-set plug and a shallow plug being provided in these paragraphs.

Paragraphs 7-11 of Mr. Kelley’s Declaration establish the usefulness and significant commercial success of the invention, which clearly serves as strong evidence that the novel feature of using at least two independently verifiable deep-set well control barriers is not an obvious modification to conventional deep sea well suspension techniques. If this novel feature was simply an obvious modification, the question arises as to why there is no teaching of such feature in any of the art cited by the Examiner or in conventional industry practice, particularly since such feature provides significant cost savings benefits (i.e., as set forth at paragraphs 9 and 10 of Mr. Kelley’s Declaration)?

There is simply no reason, absent improper hindsight and reliance upon the invention of the subject application, to provide at least two independently verifiable deep-set well control barriers for the well of Haeber. At best, one of ordinary skill in the art would have been motivated, based upon longstanding and conventional industry standards, to utilize one deep-set plug and one shallow plug during the suspension of the deep sea well of Haeber, which is different from the claimed invention.

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Accordingly, Haeber fails to anticipate or render obvious any of independent claims 92, 98 and 103. The Examiner is therefore requested to withdraw the rejections of claims 92 and 98 based upon Haeber.

Claims 93-97 and 99-102 depend from one of claims 92 and 98, and therefore are also not anticipated or rendered obvious by Haeber based upon the previous remarks for their parent claims. The Examiner is thus requested to withdraw the rejections of these claims based upon Haeber and to allow these claims.

Bartlett describes an apparatus and method for installation of subsea well completion systems. As shown in Fig. 1 of Bartlett, a conductor pipe 12 is secured in the sea floor, with a conductor housing 16 secured to an end of the pipe, a completions guide base or CGB 18 secured to the conductor housing, and a wellhead 20 landed in the housing. A vertical Christmas tree 22 is connected to the top of the wellhead 20. A first casing hanger 40 is connected to a first casing string 42 and landed in the wellhead 20, followed by a second casing hanger 44 being connected to a second casing string 46 and landed in the wellhead 20 above the first casing hanger 40 as shown in Fig. 2. A tubing hanger 48 is then connected to a top portion of a tubing string 50 and landed in the second casing hanger 44.

Bartlett further teaches that, once the tubing hanger 48 is landed, a production bore 56 of the tubing hanger 48 is sealed by a wireline plug that is installed through the running string and a tubing hanger running tool or THRT 96 that is used to land the tubing hanger (see Col. 4, lines 40-67, of Bartlett). The wireline plug is required to provide an additional barrier between the well bore and the environment until the Christmas tree 22 can be installed on the wellhead 20. Once the Christmas tree 22 is installed, the wireline plug is removed using a ROV operated subsea lubricator or ROSL 106 (see Col. 5, lines 1-36, of Bartlett).

Bartlett fails to teach the feature of controlling the well using at least two independently verifiable deep-set well control barriers as recited in each of independent claims 92, 98 and 103. Accordingly, Bartlett fails to anticipate any of these claims. In addition, it is noted that the feature of providing at least two independently verifiable deep-set well control barriers cannot be considered an obvious modification to Bartlett, or to any of the other cited references for that

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matter, based upon the remarks set forth above as well as the evidence submitted in the form of Mr. Kelley's Declaration.

Accordingly, the Examiner is requested to withdraw the rejection of claim 103 as being anticipated by Bartlett and to allow this claim. Since claims 104-106 depend from claim 103, the Examiner is further requested to withdraw the rejection of these claims based upon Bartlett and to also allow these claims.

In view of the foregoing, the Examiner is respectfully requested to find the application to be in condition for allowance with claims 92-106. However, if for any reason the Examiner feels that the application is not now in condition for allowance, the Examiner is respectfully requested to call the undersigned attorney to discuss any unresolved issues and to expedite the disposition of the application.

Applicants hereby petition for any extension of time that may be required to maintain the pendency of this case, and any required fee for such extension is to be charged to Deposit Account No. 05-0460.

Respectfully submitted,

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